

IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A computer-readable memory medium storing program instructions executable to:

in source code of a software program, display a first function call written in a text-based programming language that can be compiled into executable code, wherein the first function call takes a first parameter;

programmatically determine one or more valid parameter values for the first parameter of the first function call by invoking software for a measurement device in order to determine one or more hardware resources of the measurement device, wherein each of the one or more valid parameter values represents a respective hardware resource of the one or more hardware resources;

position a cursor on the first function call displayed in the source code in response to user input;

in response to user input requesting to select a parameter value, determine that the cursor is positioned on the first function call and display a graphical user interface for selecting a parameter value for the first parameter of the first function call, wherein the graphical user interface visually indicates the one or more valid parameter values;

receive user input to the graphical user interface to select a first parameter value from the one or more valid parameter values, wherein the first parameter value represents a first hardware resource of the measurement device; and

automatically modify the first function call displayed in the source code of the software program by including the first parameter value in the first function call in response to the user input selecting the first parameter value, wherein automatically including the first parameter value in the first function call aids a user in modifying the first function call to reference the first hardware resource of the measurement device.

2-8. (Canceled)

9. (Currently Amended) The computer-readable memory medium of claim 1, wherein the measurement device comprises a GPIB device;
wherein said determining the one or more hardware resources of the measurement device comprises determining one or more [[GPIB]] hardware resources of the GPIB device;

wherein the first parameter value represents a first [[GPIB]] hardware resource of the GPIB device;

wherein said automatically including the first parameter value in the first function call comprises automatically configuring the first function call with a reference to the first [[GPIB]] hardware resource of the GPIB device.

10. (Canceled)

11. (Currently Amended) The computer-readable memory medium of claim 1, wherein the measurement device comprises a DAQ device;
wherein said determining the one or more hardware resources of the measurement device comprises determining one or more [[DAQ]] hardware resources of the DAQ device;

wherein the first parameter value represents a first [[DAQ]] hardware resource of the DAQ device;

wherein said automatically including the first parameter value in the first function call comprises automatically configuring the first function call with a reference to the first [[DAQ]] hardware resource of the DAQ device.

12. (Currently Amended) The computer-readable memory medium of claim 1, wherein said determining the one or more valid parameter values comprises determining one or more universal resource locators (URLs) that represent the one or more hardware resources of the measurement device;

wherein the first parameter value comprises a first URL of the one or more URLs;

wherein said automatically including the first parameter value in the first function call comprises automatically configuring the first function call with a reference to the first URL.

13. (Previously Presented) The computer-readable memory medium of claim 1, wherein the program instructions are further executable to:

receive user input specifying filtering criteria for the parameter values;

wherein the graphical user interface visually indicates only a subset of the valid parameter values, wherein the subset is determined based on the specified filtering criteria.

14-19. (Canceled)

20. (Previously Presented) The computer-readable memory medium of claim 1,

wherein the source code is displayed in a first window;

wherein said displaying the graphical user interface comprises displaying the graphical user interface in a separate window apart from the first window.

21. (Previously Presented) The computer-readable memory medium of claim 1,

wherein the source code is displayed in a first portion of a first window;

wherein said displaying the graphical user interface comprises displaying the graphical user interface in a second portion of the first window.

22. (Previously Presented) The computer-readable memory medium of claim 1,

wherein the graphical user interface displays the one or more valid parameter values as a list;

wherein said receiving user input to the graphical user interface to select the first parameter value comprises receiving user input to the graphical user interface to select the first parameter value from the list.

23. (Previously Presented) The computer-readable memory medium of claim 1,

wherein said programmatically determining the one or more valid parameter values includes programmatically determining one or more property values;

wherein said receiving user input to the graphical user interface to select the first parameter value comprises receiving user input to the graphical user interface to select a first property value;

wherein the first property value is automatically included in the first function call in response to the user input selecting the first property value.

24. (Currently Amended) A computer-readable memory medium storing program instructions executable to:

in source code of a software program, display a first method call written in a text-based programming language that can be compiled into executable code, wherein the first method call takes a first parameter;

programmatically determine one or more valid parameter values for the first parameter of the first method call by invoking software for a measurement device in order to determine one or more hardware resources of the measurement device, wherein each of the one or more valid parameter values represents a respective hardware resource of the one or more hardware resources;

position a cursor on the first method call displayed in the source code in response to user input;

in response to user input requesting to select a parameter value, determine that the cursor is positioned on the first method call and display a graphical user interface for selecting a parameter value for the first parameter of the first method call, wherein the graphical user interface visually indicates the one or more valid parameter values;

receive user input to the graphical user interface to select a first parameter value from the one or more parameter values, wherein the first parameter value represents a first hardware resource of the measurement device; and

automatically modify the first function call displayed in the source code of the software program by including the first parameter value in the first method call in response to the user input selecting the first parameter value, wherein automatically including the first parameter value in the first method call aids a user in modifying the first method call to reference the first hardware resource of the measurement device.

25. (Canceled)

26. (Currently Amended) A system comprising:

one or more processors;

a display device;

a measurement device; and

memory storing program instructions;

wherein the program instructions stored in the memory are executable by the one or more processors to:

in source code of a software program, display on the display device a first function call written in a text-based programming language that can be compiled into executable code, wherein the first function call takes a first parameter;

programmatically determine one or more valid parameter values for the first parameter of the first function call by invoking software for the measurement device in order to determine one or more hardware resources of the measurement device, wherein each of the one or more valid parameter values represents a respective hardware resource of the one or more hardware resources;

position a cursor on the first function call displayed in the source code in response to user input;

in response to user input requesting to select a parameter value, determine that the cursor is positioned on the first function call and display a graphical user interface for

selecting a parameter value for the first parameter of the first function call, wherein the graphical user interface visually indicates the one or more valid parameter values;

receive user input to the graphical user interface to select a first parameter value from the one or more valid parameter values, wherein the first parameter value represents a first hardware resource of the measurement device; and

automatically modify the first function call displayed in the source code of the software program by including the first parameter value in the first function call in response to the user input selecting the first parameter value, wherein automatically including the first parameter value in the first function call aids a user in modifying the first function call to reference the first hardware resource of the measurement device.

27. (Currently Amended) A computer-implemented method comprising:

in source code of a software program, displaying a first function call written in a text-based programming language that can be compiled into executable code, wherein the first function call takes a first parameter;

programmatically determining one or more valid parameter values for the first parameter of the first function call by invoking ~~an application programming interface (API) of manager~~ software for a measurement device in order to determine one or more hardware resources of the measurement device, wherein each of the one or more valid parameter values represents a respective hardware resource of the one or more hardware resources;

positioning a cursor on the first function call displayed in the source code in response to user input;

in response to user input requesting to select a parameter value, determining that the cursor is positioned on the first function call and displaying a graphical user interface for selecting a parameter value for the first parameter of the first function call, wherein the graphical user interface visually indicates the one or more valid parameter values;

receiving user input to the graphical user interface to select a first parameter value from the one or more valid parameter values, wherein the first parameter value represents a first hardware resource of the measurement device; and

automatically modify the first function call displayed in the source code of the software program by including the first parameter value in the first function call in response to the user input selecting the first parameter value, wherein automatically including the first parameter value in the first function call aids a user in modifying the first function call to reference the first hardware resource of the measurement device.

28-30. (Canceled)

31. (Currently Amended) A computer-readable memory medium storing program instructions executable to:

display a block diagram of a graphical program, wherein the block diagram includes a plurality of interconnected nodes visually indicating functionality of the graphical program, wherein the block diagram can be compiled into executable code, wherein the plurality of interconnected nodes includes a first node that takes a first input parameter;

programmatically determine one or more valid parameter values for the first input parameter of the first node by invoking software for a measurement device in order to determine one or more hardware resources of the measurement device, wherein each of the one or more valid parameter values represents a respective hardware resource of the one or more hardware resources;

display a graphical user interface for selecting a parameter value for the first input parameter of the first node, wherein the graphical user interface for selecting the parameter value visually indicates the one or more valid parameter values;

receive user input to the graphical user interface to select a first parameter value from the one or more valid parameter values, wherein the first parameter value represents a first hardware resource of the measurement device; and

automatically configure the first node with the first parameter value in response to the user input selecting the first parameter value, wherein automatically configuring the first node with the first parameter value comprises automatically updating the displayed block diagram to visually indicate that the first node receives the first parameter value as input.

32. (Previously Presented) The computer-readable memory medium of claim 31,

wherein automatically configuring the first node with the first parameter value comprises automatically wiring the first parameter value to an input terminal of the first node;

wherein updating the block diagram comprises displaying a wire connecting the first parameter value to the input terminal of the first node.

33. (New) The computer-readable memory medium of claim 1,

wherein the measurement device includes a plurality of channels;

wherein invoking the software for the measurement device in order to determine the one or more hardware resources of the measurement device comprises invoking the software for the measurement device in order to determine the plurality of channels.

34. (New) The computer-readable memory medium of claim 1,

wherein said invoking the software for the measurement device in order to determine the one or more hardware resources of the measurement device is performed in response to the user input requesting to select a parameter value.